

WHAT IS CLAIMED IS:

1. A process for preparing a blow molding preform, comprising:

5 melting polymer flakes in a plasticating screw extruder, to prepare a homogeneous stream of hot polymer melt at the discharge of the extruder;

cooling the polymer melt stream to a temperature at least 20 degrees Centigrade below the extruder discharge temperature, by heat exchange with a liquid heat transfer medium; and

10 forming the cooled polymer melt into a blow molding preform.

2. The process for preparing a blow molding perform according to Claim 1, wherein the polymer comprises polyethylene terephthalate, polyolefin, polyester, polyamide, acrylonitrile acid ester, vinyl chloride, or a derivative, blend, or a copolymer thereof.

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3. The process for preparing a blow molding perform according to Claim 2, wherein the polymer comprises polyethylene terephthalate.

25 4. The process for preparing a blow molding perform according to Claim 1, wherein the polymer flakes comprise an average mean particle size from about 1/8 to about 3/4 inch.

5. The process for preparing a blow molding perform according to Claim 1, wherein the temperature of the polymer melt at the discharge of the extruder ranges from about 225 degrees Centigrade to about 325 degrees
5 Centigrade.

6. The process for preparing a blow molding perform according to Claim 5, wherein the temperature of the polymer melt at the discharge of the extruder ranges
10 from about 260 degrees Centigrade to about 290 degrees Centigrade.

7. A process for preparing a blow molding preform, comprising:
15 melting polymer flakes, comprising polyethylene terephthalate, polyolefin, polyester, polyamide, acrylonitrile acid ester, vinyl chloride, or a derivative, blend, or a copolymer thereof, in a plasticating screw extruder, to
20 prepare a homogeneous stream of hot polymer melt at the discharge of the extruder, the temperature of the polymer melt at the discharge of the extruder ranging from about 225 degrees Centigrade to about 325 degrees Centigrade;
25 cooling the polymer melt stream to a temperature at least 20 degrees Centigrade below the extruder discharge temperature, by heat exchange with a liquid heat transfer medium; and

forming the cooled polymer melt into a blow molding preform.

8. The process for preparing a blow molding
5 perform according to Claim 7, wherein the polymer comprises polyethylene terephthalate.

9. The process for preparing a blow molding
perform according to Claim 7, wherein the temperature of
10 the polymer melt at the discharge of the extruder ranges from about 260 degrees Centigrade to about 290 degrees Centigrade.

10. A process for preparing a blow molding
15 preform, comprising:

melting polymer flakes, comprising
polyethylene terephthalate, in a plasticating screw
extruder, to prepare a homogeneous stream of hot
polymer melt at the discharge of the extruder, the
20 temperature of the polymer melt at the discharge of the extruder ranging from about 260 degrees Centigrade to about 290 degrees Centigrade;

cooling the polymer melt stream to a
temperature at least 20 degrees Centigrade below
25 the extruder discharge temperature, by heat exchange with a liquid heat transfer medium; and

forming the cooled polymer melt into a blow molding preform.